Brief Operation Manual

NAFD-500IU

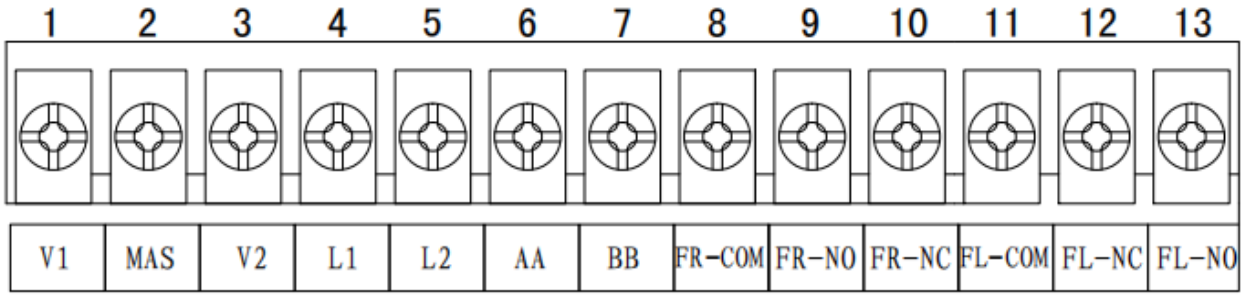
Fixed-type Infrared Flame Detector

深圳市诺安智能股份有限公司
SHENZHEN NUOAN TECHNOLOGY CO., LTD.

CONTENTS

1、Electrical Connection and Commissioning

The correspondence between the connection cable and the internal terminal block is shown in the figure below：



Wiring Diagram of Connection Cable and Internal Terminal Block

Detector terminal definitions are shown in the table below：

No.	Definition	Circuit Characteristics	Description
1	V1	+24V	Positive power supply
2	MAS	Current output terminal	Reserved
3	V2	GND	Negative power supply
4	L+	Positive bus interface	Fire alarm bus interface
5	L-	Negative bus interface	
6	AA	RS-485 communication terminal	Reserved
7	BB	RS-485 communication terminal	
8	FR-COM	Fire alarm relay common terminal	Fire alarm output (Normally open in normal condition; closed when fire alarm)
9	FR-NO	Fire alarm relay normally open terminal	
10	FR-NC	Fire alarm relay normally closed terminal	
11	FL-COM	Fault relay common terminal	Fault output (Closed after power-on; normally open when fault or power-off)
12	FL-NC	Fault relay normally closed terminal	
13	FL-NO	Fault relay normally open terminal	

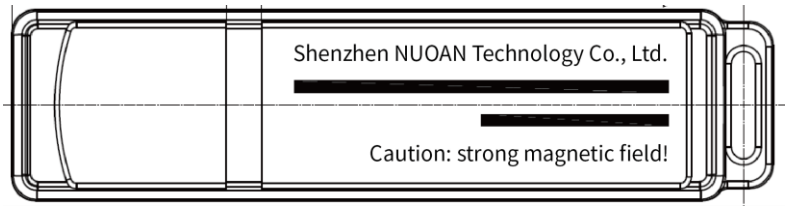
2、Status Indication

The operating status of the detector can be monitored through the status indication LEDs during operation (as shown in the table below)

status / action	Normal	Alarm	Fault
LED Indication	Green flashing	Red steady	Yellow steady
Current Output	4mA	20mA	2mA
Digital Output FR	Open	Closed	Open
Digital Output FL	Closed	Closed	Open

3、Operating Instructions

3.1、 Adjustment Tools



Magnetic Adjustment Bar

3.2、 Detection Sensitivity Setting

The detector detection sensitivity is divided into four levels (Level Ⅰ, Level Ⅱ, Level Ⅲ, Level Ⅳ). The detection sensitivity can be set using a strong magnetic bar. When setting the sensitivity, hold the magnetic bar close to the position approximately 30 degrees to the left and right below the detector viewing window. When the red LED lights up, it indicates successful setting. Remove the magnetic bar, and the patrol indicator will flash once more, increasing the sensitivity by one level. This can be set up to Level Ⅳ. One more activation will cycle back to Level Ⅰ to meet the requirements of different application environments.

3.3、Detector Self-test

After the detector is powered on, it enters self-test mode: If the green indicator flashes, the detector has entered patrol mode; If the yellow indicator remains steady, the detector has a fault. Please check and confirm the DC24V power supply connection, or contact an authorized service provider for repair or replacement.

3.4、 On-site Detector Verification

The detector installation site is classified as a hazardous (explosive) area where open flames are prohibited. To verify detector effectiveness, a flame simulator may be used for testing. Before testing, the alarm system should be switched to manual or stopped condition to prevent equipment activation upon detector alarm, avoiding unnecessary losses.

Within a range of 0.5m to 3m from the flame detector, press the button to turn on the flame simulator light source. Aim the flame simulator indicator laser at the detector to be tested and sway it slightly left and right until the detector indicator turns red. Depending on the detector sensitivity level, the alarm response time is generally within 4s-28s. If the detector does not respond within 30s, the detector sensitivity is too low or the detector is faulty, requiring replacement or repair.

4、Operation and Maintenance

1.The detector operates normally upon power-on; when a fire alarm occurs, the indicator turns red.

2.When connecting the detector to the system, complete the testing procedures in advance: place the flame within the effective detection angle of the detector, continuously and rapidly shake or fan the flame to make it flicker continuously, and observe its alarm function and detection distance.

3.Regularly inspect whether the detector window glass surface is clean; wiping must be performed periodically. Unclean detector window glass will affect detector sensitivity and may, in severe cases, cause the detector to fail to alarm during an actual fire condition.

4.Strictly prohibited to open the detector cover while the detector is energized; before cleaning, temporarily stop the detector operation and disconnect the logic control function of the area or system to be maintained to avoid unnecessary alarm linkage.

5.Do not use non-specified power supplies for the detector to avoid damage to the detector.

6.Detector wiring must be secure and correct; the detector shielding wire mesh shall be connected to the enclosure, and grounding shall be firm.

7.Users shall not disassemble the detector arbitrarily to avoid unnecessary losses.

Follow NUOAN technology official WeChat public account for more information

Company : ShenZhen NUOAN Technology Co., Ltd.

Postcode: 518107

Office Address: 16/F, Building C1, No. 459 QiaoKai Road, FengHuang Community, FengHuang Street, GuangMing District, ShenZhen

Factory Address: 13-15/F, Building C1, No. 459 QiaoKai Road, FengHuang Community, FengHuang Street, GuangMing District, ShenZhen

Tel: 0755-26826466 26827266

Fax: 0755-26826366

Website: nuoandetector.com

Email：sales@nuoan.com

Version: V1.2.3

Compilation Date: April 1, 2022